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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/361,371	07/26/1999	ALAN M. WARWICK	MSFT114130	5436

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EXAMINER

HO, THE T

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 03/25/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/361,371

Applicant(s)

WARWICK ET AL.

Examiner

The Thanh Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the amendment filed 12/29/2003.
2. Claims 1-23 have been examined and are pending in the application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 13-19 and 21-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following terms lack antecedent basis:

- (i) "the device driver" (lines 3-4 claim 13; lines 3-4 claim 21; lines 3-4 claim 22; lines 3-4 claim 23).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 7-9, 12, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable by Hyder U.S Patent No. 6,233,624 in view of Senator U.S Patent No. 6,385,663.

As to claim 1, Hyder teaches a computer readable medium comprising a device driver (148, Fig. 2) provides information and perform actions (lines 13-40 column 6; software module that manages a peripheral or physical device, line 67 column 7) associated with a hardware device (H/W 1, Fig. 2); a driver library (function library 134, Fig. 2, lines 63-67 column 5) containing software routines (library of functions, line 67 column 5) for making the information and actions (functions incorporate functionality common to most device drivers, lines 5-8 column 6) accessible to a device driver control management system (TRANSPORT 132, Fig. 2) that issues messages (transport 132 issues message to drivers, Fig. 2) to the device driver (148, Fig. 2), the software routines (library of functions, line 67 column 5) of the library (134, Fig. 2) being accessible by the device driver (arrows between drivers and 134, Fig. 2) to handle messages (136 and 156, Fig. 2) issued to the device driver (transport 132 issues message to drivers, Fig. 2) by the device driver control management system (TRANSPORT 132, Fig. 2). However, Hyder does not explicitly teach the device driver control management system monitors the device driver.

Senator teaches a communication system between device drivers (30, 32 and 34, Fig. 2) and application programs (24, Fig. 2) running within a user level (Fig. 2) wherein the information provided (information about a peripheral may be monitored, lines 30-32 column 5) and actions performed by the device driver (monitors I/O

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operations, lines 27-28 column 5) are being monitored by a pseudo-device driver (lines 26-36 column 5). It would have been obvious to apply the monitoring functionality of the pseudo-device driver of Senator to the device driver control management system (transport 132, Fig. 2) of Hyder because this allows the statistics of the device drivers to be sent to applications programs; therefore, such statistics could be used by the system to determine the levels of performance of the device drivers.

As to claim 2, Hyder as modified further teaches the device driver is configured with a unique software routine particular to the device driver (perform specific required processing, such as hardware specific operations, lines 2-4 column 6) and related to the hardware device (to manage a particular hardware or physical device, lines 4-5 column 6).

As to claim 3, Hyder as modified further teaches the device driver is further configured to execute the unique software routine (perform an inherent process, line 22 column 7) in response to a call from the driver library (when directed by a call represented by 136 through 134, lines 24-25 column 7).

As to claim 4, Hyder as modified further teaches the driver library is further configured to call the unique software routine (134 calls the corresponding driver, lines 25-26 column 6) and cause the unique software routine to execute (performs its inherent processing on the data packet, lines 26-27 column 6).

As to claim 5, Hyder as modified further teaches the unique software routine is configured to retrieve data (when directed by a call represented by 136 through 134, lines 24-25 column 7) and perform actions (perform an inherent process, line 22 column

7) associated with the hardware device (to manage a particular hardware or physical device, lines 4-5 column 6).

As to claim 7, Hyder as modified further teaches the unique software routine executes a method associated with the information (perform specific required processing, such as hardware specific operations, lines 2-4 column 6) associated with the hardware device (to manage a particular hardware or physical device, lines 4-5 column 6), the method passes additional information between the device driver and the management system (lines 13-49 column 6).

As to claim 8, Hyder as modified further teaches the driver library contains a software routine to format the additional information in a format consistent with the management system (messages are passed to 134 for decoding, lines 6-9 column 7).

As to claim 9, Hyder as modified further teaches the driver library is a dynamically accessible (lines 13-40 column 6) software library.

As to claim 12, Hyder as modified further teaches the driver library is a static library (a library of functions for interfacing to the kernel mode, line 67 column 5 to line 2 column 6) associated with the device driver.

As to claim 20, it is an apparatus claim of claim 1. Therefore, it is rejected for the same reasons as claim 1 above.

As to claim 22, it is a method claim of claim 1. Therefore, it is rejected for the same reasons as claim 1 above.

5. Claims 6, 10-11, 13-19, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable by Hyder in view of Senator, and further in view of Patent No. 5,978,815.

As to claim 10, Hyder as modified above teaches all interaction management system, driver library and device drivers are executed a interactions are executed as calls, lines 65-67 column 6). However, Hyper does not explicitly teach these calls are IRPs.

Cabrera teaches IRPs are used as the form of messages passing between components of kernel mode (Fig. 7). It would have been obvious to apply the teachings of Cabrera to the system of Hyder because the device driver may use IRP as a form of request; therefore additional information may be added to the IRP before passing it to the next driver as disclosed by Cabrera (lines 36-53 column 16).

As to claim 11, note the discussion of claim 10 above. Cabrera further teaches a result will be returned (200, Fig. 7) to the management system.

As to claim 13, it is a computer readable medium claim of claim 1. Therefore, it is rejected for the same reasons as claim 1 above. Hyder as modified further teaches receiving a message (136, Fig. 2) from the management system (note the discussion of management system in claim 1), the message including instructions regarding data maintained by an instrumented hardware device (data destined for dispatch across a network via physical devices, lines 53-55 column 5); passing the message (arrows between 134, 140 and 144, Fig. 2) to a driver library (134, Fig. 2) containing software routines for handling the instructions of the message (functions incorporate functionality

*Where's your
claim tree?*

*Where's the rejection
for claim 6?*

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common to most device drivers, lines 5-8 column 6); and handling the message by the driver library (lines 13-40 column 6). Hyder does not explicitly disclose the message is an IRP message. Cabrera teaches IRP. Note the discussion and reason of combining Hyder and Cabrera references in claim 10 above.

As to claim 14, Hyder as modified further teaches passing the IRP to the driver library comprises determining whether the IRP is intended for a particular device driver (the call or request is made into 134 with a destination driver indicator or handle, lines 17-19 column 6).

As to claim 15, Hyder as modified further teaches if the IRP is not intended for the particular device driver (134 evaluating the handle, lines 24-25 column 6), passing the IRP to a next device driver in a driver stack (calls the corresponding driver, lines 24-27 column 6).

As to claim 16, Hyder as modified further teaches calling back to a device driver associated with the instrumented hardware device to request data from (make a calls or alternatively passes, lines 30-32 column 6) or perform an action by the device driver (144 performs its inherent process on the data, lines 36-37 column 6).

As to claim 17, Cabrera further teaches requesting that data be set (read/write data processing, 62 Fig. 3) at the instrumented hardware device (local storage 64, Fig. 3).

As to claim 18, it is a computer readable medium claim of claims 2-5 and 16. Therefore, it is rejected for the same reasons as claims 2-5 and 16 above.

As to claim 19, it is a computer readable medium claim of claim 8. Therefore, it is rejected for the same reasons as claim 8 above.

As to claim 6, it is a computer readable medium claim of claim 17. Therefore, it is rejected for the same reasons as claim 17 above.

As to claim 21, it is an apparatus claim of claim 13. Therefore, it is rejected for the same reasons as claim 13 above.

As to claim 23, it is a method claim of claim 13. Therefore, it is rejected for the same reasons as claim 13 above.

Response to Arguments

6. Applicant's arguments filed have been fully considered but they are not persuasive.

Applicant argued that Hyder does not teach the function of the device driver monitor and control management system that "monitors information...to device drivers" (Remarks, last paragraphs of page 8). In response, the applicant argued a limitation that is not claimed before. However, this limitation is met by a supplement reference (Senator) as disclosed in the claim rejections above.

Applicant argued that Cabrera does not teach a device driver monitor and control management system (Remarks, last paragraph page 11). In response, Hyder reference as modified by Senator reference was used to teach this limitation, not Cabrera reference.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to The Thanh Ho whose telephone number is 703-306-5540. A voice mail service is also available for this number. The examiner can normally be reached on Monday – Friday, 8:30 am – 5:00 pm.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Any response to this action should be mailed to:


Commissioner for Patents
P.O Box 1450
Alexandria, VA 22313-1450

Or fax to:

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- AFTER-FINAL faxes must be signed and sent to (703) 746 – 7238
- OFFICAL faxes must be signed and sent to (703) 746 – 7239
- NON OFFICAL faxes should not be signed, please send to (703) 746 – 7240

TTH
March 16, 2004


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